

storing a further data structure indicating the top worst condition, data and path diversities.

19. (Canceled) A storage medium as in claim 18 wherein the means for storing an instrumented executable program(s) includes means for storing a function that updates the conditional expression and sub-expression true/false counts, updates the path trace as the instrumented program(s) run and encounter conditional statements, and generates test values for the conditional expressions as the instrumented program(s) run and encounter conditional statements.

ABSTRACT

An automatic testing technique generates test distribution report indicating the internal test diversity of a software program under test; a new measure used in assessing and improving the quality of testing. A set of source files, chosen for diversity analysis, is minimally parsed and minimally instrumented. The program under test containing these instrumented files is then typically executed multiple times with test inputs. For each execution, the instrumented code collects test distribution data. Based on the distribution data, a report is generated indicating internal condition, data, and path diversity of the program under test.